

Dental Radiology

DH1050 001

Course Description

Study of physical behavior, biological effects, methods of control, safety and techniques for exposing, processing and mounting radiographs. Included is interpretation, recognition and identification of significant findings.

Prerequisite: Accepted and enrolled into the Dental Hygiene program.

Corequisite: DH 1060

Semester(s): Fall

Course Student Learning Outcomes

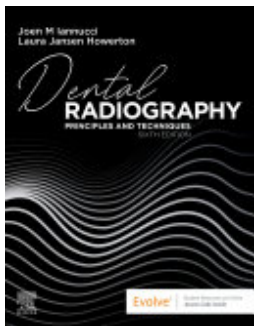
- Define and utilize basic terminology appropriate in dental radiography.
- Discuss properties of x-ray production.
- Identify the hazards of x-radiation and describe the precautions taken to protect the patient and operator from these hazards.
- Discuss legal considerations in dental radiography.
- Describe appropriate skills in exposing different types of dental radiographs using a variety of proper techniques.
- Describe proper film processing techniques.
- Discuss the various processing errors, their diagnostic quality and state how to correct them.
- Describe the technique for duplicating radiographs.
- Describe appropriate infection control techniques in dental radiography.
- Discuss the skills necessary to manage patient issues and intraoral difficulties.
- Discuss digital radiography.
- Identify and describe normal radiographic anatomy, common landmarks and restorations on radiographs.
- Identify caries, periodontal disease, regressive changes and other dental pathology in a full-mouth survey (FMX).

College Wide Student Learning Outcomes

- 1. Communicate effectively
- 2. Develop quantitative literacies necessary for their chosen field of study
- 3. Think critically & creatively
- 4. Develop civic literacy and the capacity to be community-engaged learners who act in mutually beneficial ways with community partners

- 5. Develop knowledge and skills to work with others in a professional & constructive manner
- 6. Develop computer & informational literacy
- 7. Develop the attitudes and skills for lifelong wellness

Required Text or Materials



Title: Dental Radiography - E-Book

Subtitle: Principles and Techniques

ISBN: 9780323695510

Authors: Joen Iannucci, Laura Jansen Jansen Howerton

Publisher: Elsevier Health Sciences

Publication Date: 2021-08-10

Edition: 6th edition

For more information on textbook accessibility, contact Accessibility & Disability Services at ads@slcc.edu.

Communication Plan

- I will respond to email within 1-3 days.
- I will offer feedback on major assignments within a week.
- The best way to contact me is via my [slcc.edu](mailto:ads@slcc.edu) email, as I will prioritize this email over other modes of communication.
- If you need an immediate response, you are welcome to text me.

Assignment Schedule

Due Date	Assignment Name	Assignment Type	Points
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Due Date	Assignment Name	Assignment Type	Points
	Introduce Yourself	Discussion	0
8/28	Weekly Quiz 1	Assignment	20
8/29	Nomad Certification Quiz	Quiz	0
9/4	Weekly Quiz 2	Assignment	20
9/11	Weekly Quiz 3	Assignment	20
9/18	Weekly Quiz 4	Assignment	20
9/25	Weekly Quiz 5	Assignment	20
10/2	Weekly Quiz 6	Assignment	20
10/9	DH 1050 Midterm Exam	Quiz	100
10/23	Weekly Quiz 7	Assignment	20
10/30	Weekly Quiz 10	Assignment	20
11/6	Weekly Quiz 11	Assignment	20
11/13	Weekly Quiz 12	Assignment	20
11/13	Alternate Assessment Project	Assignment	100
11/20	Weekly Quiz 13	Assignment	20
12/12	DH 1050 Dental Radiology Final Exam	Quiz	100

Brief Description of Assignments/Exams

- Weekly Quizzes (11) will be given at the beginning of the class session and consist of 20 multiple-choice questions. Quizzes will focus on topics covered in class

lectures and will not overlap with material covered in previous quizzes.

- A Midterm Exam will cover a limited number of topics studied up to that date. Exam material will consist of approximately 100 multiple-choice questions and will be given in the testing center.
- A Final Exam will be comprehensive with an emphasis on integration of basic principles and application of theory to clinical practice. Exam material will consist of approximately 100 multiple-choice questions including approximately 30 image exam questions. Exam will cover information presented in reading assignments, homework assignments, and lab and lecture notes. The final exam will be given in the testing center.
- An Alternative Assessment Project will be used to enhance the student's experience. Details covered under Alternative Assessment Project.

Grading	Possible Points	Percent of Grade
Alternate Assessment Project	100 pts.	15%
Weekly Quizzes	220 total pts.	20%
Midterm (multiple choice)	100 pts.	25%
Comprehensive Final (multiple choice)	100 pts.	<u>40%</u>
		100%

Alternate Assessment Project

An alternative assessment project (AAP) lends an opportunity for you as an individual to creatively demonstrate application of subject areas of this course. You will present individually or in a group during a class session based on the topic you select. Listed below are categories from which you may choose. For the maximum number of students allowed for each alternative assessment project, refer to the project description. **Each project must be approved by the course instructor.** You will choose a lecture topic (ie. digital imaging, interpretation of periodontal disease, identification of restorations, materials and foreign objects, etc.) to present one of the following activities. Signing up on the [Google Doc](#) will lock in the selected topic for your group. Only one group can

present on a selected topic on a particular day. When appropriate please provide an electronic copy of the AAP submitted via Canvas.

☺ **RADIOGRAPHIC CASE STUDY:** Develop and present a PowerPoint presentation to the class on an interesting radiographic finding. The presentation must include one or more radiographs and background information related to the case study. Maximum of two students per project.

⊛ **ACTIVITY:** Develop and conduct an activity for a class session, based on the topic, readings and objectives scheduled for that day. The activity must maintain student involvement and interest for ten to fifteen minutes. Maximum of three students per project.

^**GAME:** Develop and conduct playing of a game to enhance learning of topic(s) presented during either a class session or as a comprehensive review for an exam. The game is to include instructions to players. An example might be Jeopardy, Kahoot, or Gimkit. Maximum of three students per project.

◆ **MIND MAP OR CONCEPT MAP:** Construct a mind map or concept map depicting a subject for this semester. Before completing and submitting the learning contract to do a mind map, the student(s) must review the information on the following web pages:

<http://www.peterussell.com/mindmaps/mindmap.html> (Links to an external site.)

<http://www.peterussell.com/Mindmaps/Advantages.html> (Links to an external site.)

<http://www.peterussell.com/Mindmaps/HowTo.html> (Links to an external site.)

<http://www.peterussell.com/Mindmaps/Uses.html> (Links to an external site.)

Maximum of two students per project.

* **PAPER:** Write a four-page paper (one-inch margins, 12 point font, double spaced) with references, correct grammatical structure, and correct spelling providing additional information on a topic covered during the semester. A draft of the paper must be peer reviewed by two other fellow students and appropriately revised before the final draft is submitted. Additionally, develop and present a PowerPoint presentation to the class summarizing your paper. Maximum of three students per project.

- For group planning for this project, you may choose to meet online or after class/clinic. Keep in mind everyone's schedule! Have fun with this! I can't wait to see your creativity!

Grading Scale

A = 100 – 95 %	B = 86 – 83 %	C = 77 – 75 %	D = 66 – 64%
A- = 94 – 90 %	B- = 82 – 80 %	C- = 74 – 71%	D- = NA
B+ = 89 – 87 %	C+ = 79 – 78 %	D+ = 70 – 67%	E = 63 – and below

A : For outstanding work which demonstrates exceptional mastery of course material

B : For good work which is clearly beyond simple mastery of material

C : For acceptable work indicating a mastery of the basic concepts of a course (75% and above)

D : For unacceptable work that fails to meet course requirements

E : For unacceptable work that fails to meet course requirements

REQUIREMENT FOR SUCCESSFUL COMPLETION OF THIS COURSE:

A minimum passing grade of a C or 75% is required for successful completion of this course.

How to Navigate to Canvas

Student Academic Calendar

As students you should be aware of all important dates in the semester, such as the day that courses begin and end, as well as the drop date and the last day to withdraw. To learn more about those dates, navigate to the Student Academic Calendar below:

[SLCC Student Academic Calendar](#)

Course Outline and Calendar

COURSE	TOPIC/ACTIVITY	LAB LEARNING EXPERIENCES (LE) & PROCESS EVALUATIONS (PE)	QUIZZES & RADIOGRAPHS TO COMPLETE FOR GRADING
	WEEK ONE		
Aug. 21 st DH 1050 CLASS	Introduction Radiation History (ch. 1) Radiation Physics (ch. 2) Radiation Characteristics (ch. 5) Dental X-ray Equipment (ch.7) Dental X-ray Film (ch. 9)		NO QUIZ
Aug. 22 nd DH 1060 LAB	Radiology Lab Introduction: Use of DXTTR Radiation Safety Instruction/Radiation Badge Equipment Identification	Clinic Policy & Procedures, Lab Grading	NO QUIZ
	WEEK TWO		
Aug. 28 th DH 1050 CLASS	Quality Assurance in Dental Office (ch. 17) Intro. to Dental Imaging Exams (ch. 18) Paralleling Technique (ch. 19)		QUIZ 1
Aug. 29 th DH 1060 LAB	Work on DXTTR Anterior Exposures Focus: Extension Cone Paralleling (XCP)/ Digital Paralleling Technique	<i>Paralleling LE</i>	Equipment Quiz
	WEEK THREE		

COURSE	TOPIC/ACTIVITY	LAB LEARNING EXPERIENCES (LE) & PROCESS EVALUATIONS (PE)	QUIZZES & RADIOGRAPHS TO COMPLETE FOR GRADING
Sept. 4 th DH 1050 CLASS	Dental X-ray Image Characteristics (ch. 6) Film Processing (ch. 10) Bite-wing Technique (ch. 21) Film Mounting and Viewing (ch. 11)		QUIZ 2
Sept. 5 th DH 1060 LAB	Work on DXTTR Posterior Exposures Focus: XCP/Digital Paralleling Technique & Horizontal Bite-wing Exam (BWX)	<i>Paralleling PE</i> <i>Image Mounting LE</i>	
WEEK FOUR			
Sept. 11 th DH 1050 CLASS	Infection Prevention & Radiographer (ch.16) Bisecting Technique (ch. 20) Exposure and Technique Errors (ch. 22)		QUIZ 3
Sept. 12 th DH 1060 LAB	Work on DXTTR Anterior Exposures Focus: Bisecting Technique w/ Digital Sensor	<i>Bisecting LE</i> <i>Image Mounting PE</i>	Full Mouth Exam (FMX)- Paralleling (P)
WEEK FIVE			
Sept. 18 th DH 1050 CLASS	Radiation Protection (ch. 4) Dental Images & Radiographer (ch. 12) Imaging Patients w/ Special Needs (ch. 24) **Alternate Assessment Approval Due**		QUIZ 4

COURSE	TOPIC/ACTIVITY	LAB LEARNING EXPERIENCES (LE) & PROCESS EVALUATIONS (PE)	QUIZZES & RADIOGRAPHS TO COMPLETE FOR GRADING
Sept. 19th DH 1060 LAB	Work on DXTTR Posterior Exposures Focus: Digital Bisecting Technique & VBWX	<i>Bisecting PE</i>	
	WEEK SIX		
Sept. 25th DH 1050 CLASS	Panoramic Imaging (ch. 25) Extraoral Imaging (ch. 26)		QUIZ 5
Sept. 26th DH 1060 LAB	Work on DXTTR BWX Focus: Mock Panoramic Imaging & BWX's	<i>Bitewing LE</i> <i>Panoramic LE</i>	Full Mouth Exam (FMX)- Bisecting (B)
	WEEK SEVEN		
Oct. 2nd DH 1050 CLASS	Normal Anatomy - Intraoral (ch. 28) Normal Anatomy - Panoramic (ch. 29) <i>Review for Midterm: Modules for weeks 1 - 6</i>		QUIZ 6
Oct. 3rd DH 1060 LAB	**Timed Competency on DXTTR** Focus: FMX w/ Vertical BWX on DXTTR		FMX (P)
	WEEK EIGHT		
Oct. 9th DH 1050 CLASS	Midterm Exam: Modules for weeks 1 - 6		
Oct. 10th DH 1060 LAB	Work on DXTTR BWX's Focus: BWX - Pediatric (Pedo) ScanX BWX, Horizontal (H) & Vertical (V) Digital BWX	<i>Bitewing PE</i> <i>Handheld X-ray Unit</i> <i>LE</i>	Pedo BWX H BWX V BWX
	WEEK NINE		

COURSE	TOPIC/ACTIVITY	LAB LEARNING EXPERIENCES (LE) & PROCESS EVALUATIONS (PE)	QUIZZES & RADIOGRAPHS TO COMPLETE FOR GRADING
Oct. 16 th DH 1050 CLASS	Field Trip for 3D Imaging		
Oct. 17 th DH 1060 LAB	FALL BREAK - NO LAB		
	WEEK TEN		
Oct. 23 rd DH 1050 CLASS	Occlusal and Localization Tech. (ch. 23) Digital Imaging (ch. 8) 3-Dimensional Digital Imaging (ch. 27)		QUIZ 7
Oct. 24 th DH 1060 LAB	Work on DXTTR FMX Focus: ScanX FMX Paralleling with VBWX & Maxillary Occlusal Topographic Image	<i>Occlusal Exposure</i> <i>LE</i> <i>ScanX Tech LE</i>	Maxillary Occlusal Topographic Image
	WEEK ELEVEN		
Oct. 30 th DH 1050 CLASS	Introduction to Image Interpretation (ch. 30) Descriptive Terminology (ch. 31) Identification of Restorations, Dental Materials, and Foreign Objects (ch. 32)		QUIZ 10
Oct. 31 st DH 1060 LAB	Work on DXTTR FMX Focus: ScanX FMX w/ VBWX, Mandibular Occlusal Topographic Image & Localization	<i>ScanX Tech PE</i> <i>Occlusal Exposure</i> <i>PE</i>	ScanX FMX Mand. Occ. Topograph. Localization
	WEEK TWELVE		

COURSE	TOPIC/ACTIVITY	LAB LEARNING EXPERIENCES (LE) & PROCESS EVALUATIONS (PE)	QUIZZES & RADIOGRAPHS TO COMPLETE FOR GRADING
Nov. 6 th DH 1050 CLASS	Interpretation of Dental Caries (ch. 33) Interpretation of Periodontal Disease(ch.34) Interpretation of Trauma & Lesions (ch. 35)		QUIZ 11
Nov. 7 th DH 1060 LAB	Work on Clinic Patient Focus: Digital FMX Paralleling with 4 BWX	<i>Infection Control LE</i>	FMX (P)
WEEK THIRTEEN			
Nov. 13 th DH 1050 CLASS	Radiation Biology (ch. 3) Patient Relations and Radiographer (ch.13)		QUIZ 12
Nov. 14 th DH 1060 LAB	Work on Clinic Patient Focus: Digital Panoramic & ScanX Pedo BWX	<i>Panoramic PE</i> <i>Handheld X-ray Unit PE</i>	Pano Pedo BWX
WEEK FOURTEEN			
Nov. 20 th DH 1050 CLASS	Patient Education & Radiographer (ch. 14) Legal Issues & Radiographer (ch.15) Dental Anomalies (study guide)		QUIZ 13
Nov. 21 st DH 1060 LAB	Work on Clinic Patient Focus: Digital FMX Bisecting with 4 BWX	<i>Infection Control PE</i>	FMX (B)
WEEK FIFTEEN			
Nov. 27 th DH 1050 CLASS	THANKSGIVING BREAK - NO CLASS		

COURSE	TOPIC/ACTIVITY	LAB LEARNING EXPERIENCES (LE) & PROCESS EVALUATIONS (PE)	QUIZZES & RADIOGRAPHS TO COMPLETE FOR GRADING
Nov. 28 th DH 1060 LAB	THANKSGIVING BREAK - NO LAB		
	WEEK SIXTEEN		
Dec. 4 th DH 1050 CLASS	Review for Comprehensive Final Exam		
Dec. 5 th DH 1060 LAB	LAB FINAL Work on Clinic Patient Focus: Digital FMX Paralleling with 4 BWX		FMX (P)
	FINALS WEEK		
Dec. 11 th DH 1050 CLASS	Comprehensive FINAL EXAM		
Dec. 12 th DH 1060 LAB	NO LAB! Nice work! Have a wonderful holiday!		

Institutional Policies

As members of our academic community, we would like to invite you to review the Institutional Syllabus which covers important policies and procedures. This document contains important links for students on the code of student rights and responsibilities, academic integrity, and grading policies, Title IX and other important acknowledgements. By familiarizing yourself with this information, you can help us create a safe and respectful environment for everyone.

You can access the document by clicking on the following link:

<https://slcc.instructure.com/courses/530981/pages/institutional-syllabus>

Additional Policies

LATE WORK POLICY:

Late work will not be accepted in this course. Students will show organization, responsibility, and accountability. Excuses will not be accepted to invalidate the policy. Late assignments, quizzes, or exams will be given a '0' grade.

PLAGIARISM POLICY:

Students are expected to reference all sources of information. Any plagiarism will result in failure of the assignment and possible failure of the course. Information must not be copied from other students work, textbooks or internet sources.

Teaching Methods and Learning Activities

- Alternative Assessment Project
- Lecture learning activities
- Assigned reading from text (prior to class session)
- Completion of module objectives (prior to class session)
- Audio visuals
- View and discuss radiographs
- Group discussion
- Alternative Assessment Project
- Problem solving
- Demonstration on Dental X-ray Teaching and Training Replica (DXTTR)

Professionalism

Professionalism is expected and includes at a minimum the following capabilities and traits :

1. **Appearance:** Displays appropriate professional appearance and is appropriately groomed as defined in the SLCC Dress Code.

2. **Attitudes:** Is actively concerned about others. Maintains a positive outlook toward others and toward assigned tasks. Recognizes and admits mistakes. Seeks and accepts feedback to improve performance.
3. **Dependability:** Completes tasks promptly and well. Arrives on time for online lectures and actively participates in clinical and didactic activities. Follows through and is reliable.
4. **Function under stress:** Maintains professional composure and exhibits good personal and clinical judgment in stressful situations. Recognizes the importance of maintaining professional behavior in the clinical setting, in spite of inappropriate action on the part of others.
5. **Initiative:** Independently identifies tasks to be performed and makes sure that tasks are completed satisfactorily. Performs duties promptly and efficiently. Is willing to spend additional time and to assume new responsibilities. Recognizes when help is required and when to ask for guidance.
6. **Integrity:** Displays honesty in all situations and interactions; is able to identify information that is confidential and maintain its confidentiality.
7. **Interpersonal relationships:** Provides support and is empathetic and considerate in interactions with peers, patients, faculty, and staff. Interacts effectively with "difficult individuals." Demonstrates respect for and complements the roles of other professionals. Is cooperative and earns respect.
8. **Tolerance:** Demonstrates ability to accept people and situations. Acknowledges his/her biases and does not allow them to affect patient care or contribute to inappropriate interactions with others.

Rules and Requirements

- **Student participation** in class and during group assignments is critical for maximum learning.
- Students are required to demonstrate high levels of **integrity and professionalism** at all times. Failure to show professionalism and integrity will lower the overall grade by one letter grade or could result in more severe consequences as outlined in the SLCC Honor Code and the Dental Hygiene Policies and Procedures Handbook.

- **Participation in lectures** is imperative for student success. If for any reason you are not able to attend the lecture, it is your responsibility to let the course instructor know via email/text prior to the beginning of the class session. One unexcused **absence or tardy** more than fifteen (15) minutes in either lab or lecture constitutes academic probation. More than one absence or tardy results in dismissal from the dental hygiene program as explained in the dental hygiene policy and procedures manual.
- An absence from class or a missed exam requires notification of the course instructor and department coordinator. It is also the students' responsibility to obtain missing readings and lecture notes, as well as arrange **make-up exams** with the course instructor. Only legitimate reasons will be considered for make-up exams. Failure to follow these guidelines will result in a grade of "0" for missed exam, quiz or homework assignment.
- The student is responsible to discuss any grading **discrepancy** with the instructor within 10 days from the posting of the grade.
- **Cell phone** usage (incoming or outgoing) is not allowed during lecture or lab. Important messages may be checked during breaks and before or after class time.
- Personal **laptop computers** are a benefit to some students. During lectures, please refrain from reading emails, surfing the web, or engaging in other activities not related to the lectures. If the student is found participating in distracting activities for themselves or others the student will lose that privilege.
- Any information obtained from this course may not be published or copied without written permission from the instructor. Any form of **plagiarism** in this course may result in failure of the course.

Electronic/Wireless Devices in the Classroom

The advent of technology use in the classroom as an instructional tool has caused both opportunities and distractions. The expectations for this course are that you are engaged and present during class time, which means that you will be free from technological distractions. Research has shown that these distractions cause individual inattentiveness and can make it difficult for others to stay focused on the immediate discussions. The following policies are in effect during our time together:

1. Cell phones, iPods, pagers, High-Resolution DVR Spy Pens with webcam and microphone or any device (excluding ADA authorized devices) that may distract from the class should be silenced before entering the classroom and may not be on the desk during class or exams. If you have an emergency and must use your cell phone, please exit the classroom to take the call. If you are discovered reading/sending text messages during class, you could be asked to leave the class and will be counted absent for that class session.

2. You are expected to engage in discussion for the class. You may use your computer to access your textbook, take notes, and research the discussion topic. However, some students may find it difficult to refrain from reading emails, surfing the web, and engaging in other activities not related to the class. Therefore, if you are discovered engaging in computer activities not directly related to the class, you will be asked to leave the class and will be counted absent for that class session.

3. You may not record or publish information from the class without written authorized use from the instructor. If used without authorization you have violated PRIVACY/INTELLECTUAL PROPERTY RIGHTS.

Learning Support and Tutoring Services

We are pleased to offer a range of tutoring and learning support services to help you achieve your academic goals. Whether you need assistance with a specific subject or want to improve your study skills, you have many options for tutoring or other support.

To learn more about the services we offer and how to access them, please visit the Institutional Syllabus under the Tutoring and Learning Support tab: <https://slcc.instructure.com/courses/530981/pages/institutional-syllabus>. We encourage you to take advantage of these resources to help you succeed in your studies. If you have any questions or would like to schedule a tutoring session, please don't hesitate to reach out to us. We are here to support you in any way we can.

Advising and Counseling Support Services

At our institution, we are committed to supporting your academic and personal growth. That's why we offer a range of advising and counseling services to help you navigate the

challenges of college life. To learn more about the resources available to you and how to access them, please visit the Institutional Syllabus under the Advising and Counseling Support Services tab: <https://slcc.instructure.com/courses/530981/pages/institutional-syllabus>. Our advising team and the support centers across campus are here to support you in achieving your goals and overcoming any obstacles you may face.